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FUNGICIDAL SCREENING TESTS FOR THE CONTROL OF DECAY IN FLORIDA ORANGES

By

J. R. Winston, and others Senior Horticulturist
G. A. Meckstroth, Assoc. Pathologist
R. H. Cubbedge, Scientific Aid
G. L. Roberts, Scientific Aid

Division of Handling, Transportation and Storage
of Horticultural Crops.

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Fungicidal Screening Tests For The Control of Decay In Florida Oranges

This report, the third[1] on the results of screening tests with decay inhibitors for citrus fruits, gives an account of tests made with fungicidal or fungistatic compounds on oranges during the shipping seasons of 1950-51 and 1951-52.

The fruit used in these tests was produced in the same locality as in the past, hence, only annual differences in keeping quality are to be expected. The methods followed during the 1950-51 season were essentially the same as those described in the first report (H. T. & S. Report No. 201). Usually, the fruit was treated with ethylene for 48 or more hours--to accelerate the development of stem-end rot--before the compound under test was applied. In the second season this procedure was usually reversed, or the ethylene treatment was omitted. Inasmuch as the experimental procedure with naturally infected fruit was outlined in considerable detail in the 1st report, it seems unnecessary to repeat it here.

During the 2nd half of the period covered by the present report the screening program was expanded to include fruits artificially inoculated with Penicillium digitatum. The procedure was as follows: Oranges were harvested by clipping and brought to the laboratory where they were washed and dried without delay. The rind of each fruit was pricked on opposite cheeks near the stylar end with 10 needles to a depth of 1.0 - 1.5 mm. and dipped in a concentrated aqueous suspension of viable green mold spores. While still wet this inoculated fruit was placed in garbage cans with holes in the bottom, lined and covered with wet paper and held for 16 to 18 hours at 70° F. The purpose of perforations was to lessen the build-up of waste gases in the can and the wet paper to aid in keeping the inoculated fruit enveloped in almost saturated atmosphere favorable for spore germination. Then the fruit was treated with the compound under evaluation, transferred to a holding room maintained at 70° and inspected as heretofore described. Ten inoculated fruits constituted a sample. Decay developed within 3 or 4 days after inoculations. Decay that developed in areas other than the points of inoculation were cataloged as "other" and were not considered in appraising the effectiveness of the compound under test.

The abbreviations and symbols used were the same as in the previous reports and are explained on Page 1.

RESULTS

Of the 419 compounds screened, 26 were found to give very good ("A") control of decay resulting from natural infections from all causes for 3 weeks, but 18 of these also caused injury to the peel. Six gave satisfactory control (80 percent or better) of rot for 2 weeks in fruit inoculated with Penicillium digitatum. Only one compound, 2-Thiazolidinethione, gave a high degree of control of penicillium decay resulting from both natural infections and inoculations without causing rind injury.

Seventeen compounds gave good ("B") control of decay from natural infections. Of these, 2-Chloro-4-cyclohexylphenol and 4-Phenylpyrocatechol, gave satisfactory control of decay in fruit inoculated with green mold, but they also caused rind injury. However, 8 chemicals in this group caused no rind injury.

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[1] The 1st and 2nd reports were given in H. T. & S. Reports No. 201 and 253, respectively.

Sixty-five compounds gave fair ("C") control of decay resulting from natural infections. Only one of these, N-(m-Chlorophenyl) maleimide, gave satisfactory control of green mold rot in inoculated fruit, and it caused rind injury. No visible ill effects were caused by 41 of the other compounds.

Three hundred and eleven compounds gave either poor ("D") or no control of decay from natural infections, and 219 of them caused no injury to the peel. Nine gave satisfactory control of green mold in inoculated fruit, and 2 of these, Decyl(-2-(N'-p-methoxybenzyl-N'-pyrimidylamino ethyldimethyl ammonium iodide and Pentabromo ethane, caused no injury to the peel.

CITRUS DECAY CONTROL OBTAINED IN SCREENING TESTS WITH VARIOUS CHEMICALS DURING THE 1950-51 AND 1951-52 SEASONS

KEY:

TREATMENT

AL	Alcohol.
ALD	Dispersed in alcohol.
DNR	Fruit dipped but not rinsed afterwards.
DR	Fruit dipped and rinsed afterwards.
DV	Dispersed in organic vehicle.
F	Fumigant, applied in 18 cubic foot chamber.
O	Organic solvent other than alcohol singly.
Sat. sol.	Saturated solution.
W	Water.
WD	Dispersed in water.
WE	Water emulsion.
*	Rind injury at higher concentrations.
**	Rind injury at all concentrations.

RESULTS: NATURAL INFECTIONS

A	Excellent control of decay; check 10 times as much or more decay as treated lots.
B	Good control of decay; check 5 to 9 times as much decay as treated lots.
C	Fair control of decay; check 2 to 4 times as much decay as treated lots.
D	Poor to negligible control of decay; check less than 2 times as much decay as treated lots.

RESULTS: ARTIFICIAL INOCULATIONS

DAax	Delaying action up to 50 percent, first week.
DAaxx	Delaying action more than 50 percent, first week.
DAbx	Delaying action up to 50 percent, second week
DAbxx	Delaying action more than 50 percent, second week
DAx	Delaying action up to 50 percent, for two weeks.
DAxx	Delaying action more than 50 percent, for two weeks.
DAxx'	Delaying action 80 percent or more, for two weeks.
NDA	Little or no delaying action.
NDAb	Little or no delaying action, second week.

Accession number	Chemical	Percent - Maximum concentration	Ethylene applied to naturally infected fruit	How treated after dip or fumigation	Solvent or diluent	RESULTS Natural infections[1/]	RESULTS Penicillium inoculations (no ethylene)
2044	Benzeneboronic acid	5	After	DNR	ALD	A*	DAxx'
1929	Butyl p-hydroxybenzoate	5	After	DNR	AL	A**	DAax; NDAb
2052	Carbanilic acid, 3-chloro-, propyl ester	5	After	DNR	AL	A	DAxx
862	p-Chloroacetophenone oxime	5	--	DNR	AL	--	DAxx
1684	4-Chloro-2-cyclohexylphenol	5	After	DNR	AL	A*	--
2220	N-(o-Chlorophenyl)maleimide N-(m-Chlorophenyl)maleimide N-(p-Chlorophenyl)maleimide	5	After	DNR	WD	A**	DAax; NDAb
1885	2-Cyclohexyl-p-cresol	5	After	DNR	AL	A*	DAaxx; DAbx
1948	o-Cyclohexylphenol	5	After	DNR	AL	A**	DAxx
1883	4-Ethyl-2-phenylphenol	5	After	DNR	AL	A**	DAax; NDAb
2092	Ethyl thiononocyclohexanecarbamate	5	After	DNR	AL	A	DAax; NDAb
1098+ 1616	2-Methoxyethyl carbanilate plus Hexamethylenetetramine	5	Before	DNR	AL	A**	--
1098+ 1616	do	5	Before	DR	AL	A*	--
1098	2-Methoxyethyl carbanilate	5	Before	DNR	AL	A**	DAxx
1968	Phenol, 2,4,6-tribromo-	5	After	DNR	AL	A**	DAxx'
1747	Phenoxathiin	5	After	DNR	O	A	--
2025	Propyl benzoylthionocarbamate	5	After	DNR	AL	A*	DAxx'
1738	Quinoline, 8-phenyl-mercurioxy-	Sat. sol.	After	DNR	AL	A**	DAxx
1918	2-Thiazolidinethione	5	After	DNR	AL	A	DAxx'
1652	2,4,6-Trichlorophenol	5	After	DNR	AL	A**	--
1942	2,4,5-Trichlorophenol tributyl amine salt	5	After	DNR	AL	A**	DAxx'
1670	Tripropylene glycol n-butyl ether	5	After	DNR	AL	A*	DAaxx; NDAb
1949	Tripropylene glycol n-butyl ether-B	5	After	DNR	AL	A*	NDA
1841	Urea-boric acid, reaction product sample 101	5	After	DNR	W	A	--
1844	Urea-boric acid, reaction product sample 104	5	After	DNR	W	A	--
1845	Urea-boric acid, reaction product sample 105	5	After	DNR	W	A	--
1846	Urea-boric acid, reaction product sample 106	5	After	DNR	W	A	--
2029	Urea, (3-chloromercuri-2-methoxypropyl)-	5	After	DNR	W	A**	DAxx'
1990	Acetophenone, p-hydroxy-	5	After	DNR	AL	B*	DAaxx; DAbx
1763	Benzophenone, 4-hydroxy-	5	After	DNR	O	B**	DAxx
2049	Carbanilic acid, 2-chloro-ethyl ester	5	After	DNR	AL	B	DAxx
2053	Carbanilic acid, m-chloro-, isopropyl ester	5	After	DNR	AL	B	DAaxx; DAbx

Accession number	Chemical	Percent - Maximum concentration	Ethylene applied to naturally infected fruit	How treated after dip or fumigation	Solvent or diluent	RESULTS	
						Natural infections	Penicillium inoculations (no ethylene)
1896	2-Chloro-4-cyclohexylphenol	5	After	DNR	AL	B**	DAxx'
1878	1-(p-Cumyloxy)-2-propanol	5	After	DNR	AL	B**	--
1352	8-Hydroxyquinoline benzoate	5	Before	DNR	AL	B**	--
1098+ 1711	2-Methoxyethyl carbanilate plus Glyoxal	5	Before	DNR	AL	B**	--
1680	4-Phenylcatechol	5	After	DNR	AL	B*	--
1709	2-Phenylcyclohexanol	5	After	DNR	AL	B*	--
1915	4-Phenylpyrocatechol	5	After	DNR	AL	B**	DAxx'
1934	2,3,4,6-Tetrachloro phenol dicyclohexylamine salt	Sat. sol.	After	DNR	AL	B	DAxx
1899	2,4,x-Trichloro-6-phenylphenol	5	After	DNR	AL	B	DAaxx; NDAb
1840	Urea-boric acid, reaction product sample 100	5	After	DNR	W	B	--
1843	Urea-boric acid, reaction product sample 103	5	After	DNR	W	B	--
1847	Urea-boric acid, reaction product sample 107	5	After	DNR	W	B	--
1735	Urea,1,1-dimethyl-2-thio-	5	After	DNR	W	B	--
2080	Acetanilide, o-phenyl-	5	After	DNR	AL	C	NDA
1753	Acetonitrile, diphenyl-	5	After	DNR	O	C	NDA
1997	Acetophenone oxime	5	After	DNR	AL	C*	DAxx
2033	Ammonium chloride, benzyl-dimethyl-phenyl-	5	After	DNR	W	C	NDA
2065	Benzene, (1-bromoethyl)-	5	After	DNR	AL	C*	NDA
2110	Benzophenone,2,4'-dihydroxy-	5	After	DNR	O	C*	DAxx
1687	1,2-Biphenylyloxy-2-porpanol	5	After	DNR	AL	C	DAaxx; NDAb
2019	m-Bromoacetophenone oxime	5	After	DNR	W	C*	DAax; NDAb
	do	5	Before	DNR	W	C*	--
1782	2-Bromo-4-phenylphenol	5	After	DNR	AL	C**	--
1976	2-Butanone,3,3'-ethylene-dinitrilodi-, dioxime, iron (II) complex	5	After	DNR	W	C	NDA
2072	Butyl borate, tri-	5	After	DNR	AL	C	DAax; NDAb
1888	x-sec-Butyl-2-phenylphenol	5	After	DNR	AL	C*	DAxx
1710	4-tert-Butyl-2-phenylphenol	5	After	DNR	AL	C	--
2046	Carbamic acid, benzyl-, ethyl ester	5	After	DNR	AL	C	DAxx
1981	Carbamic acid, dimethyl-dithio-, zinc salt	5	After	DNR	WD	C	NDA
2055	Carbanilic acid, p-chloro-, isopropyl ester	5	After	DNR	AL	C	NDA
2137	p-Chloroacetophenone oxime	5	After	DNR	O	C*	DAxx
1951	2-Chloro-4-cyclohexylphenol	5	After	DNR	AL	C**	DAxx
1914	2-Chloro-6-(alpha-methylbenzyl)-4-phenylphenol	5	After	DNR	AL	C*	--
2197	N-(m-Chlorophenyl)maleimide	5	After	DNR	AL	C**	DAxx'

Accession number	Chemical	Percent - Maximum concentration	Ethylene applied to naturally infected fruit	How treated after dip or fumigation	Solvent or diluent	RESULTS	
						Natural infections	Penicillium inoculations (no ethylene)
1760	Cyclohexane, (2-bromoethyl)-	5	After	DNR	O	C*	DAax; NDAb
1895	4,4'-Cyclohexylidenediphenol	5	After	DNR	AL	C	DAax; NDAb
1708	o-Cyclohexylphenol	5	After	DNR	AL	C**	--
1707	p-Cyclohexylphenol	5	After	DNR	AL	C	--
1867	N-Cyclohexyl-S-(1-piperidylthiocarbonyl) hydrosulfamine	5	After	DNR	AL	C	NDA
1944	Dehydroacetic acid, sodium salt	5	After	DNR	W	C	DAx
1658	2,3-Dichloroacetophenone	5	After	DNR	AL	C**	--
1998	3,4-Dichloroacetophenone oxime	5	After	DNR	AL	C	DAaxx; DAbx
1903	2,5-Dimercapto-1,3,4-thiadiazole	5	After	DNR	AL	C	DAaxx; NDAb
1829	Ethylenediamine tetraacetic acid	5	After	DNR	WD	C	NDA
1933	o (and p)-m (and o)-ethyl-alpha-methylbenzyl phenol	5	After	DNR	AL	C**	DAxx
2139	Ethyl p-methoxythionocarbanilate	5	After	DNR	O	C	NDA
2141	Ethyl p-methylthionocarbanilate	5	After	DNR	O	C	NDA
1999	Eugenol, acetate	5	After	DNR	AL	C	NDA
1977	Guanidine, 1-phenyl-, stearate	5	After	DNR	AL	C	NDA
2047	Hydrazine, 4-biphenylyl-, hydrochloride	5	After	DNR	O	C**	DAaxx; DAbx
1993	o-Hydroxyacetophenone oxime	5	After	DNR	AL	C*	DAxx
1352	8-Hydroxyquinoline benzoate	5	Before	DR	AL	C*	--
1793	Iodoacetic acid .	5	After	DNR	AL	C**	--
1798	o-Iododiphenyl	5	After	DNR	AL	C	--
1814	Iodonium chloride, bis(p-fluorophenyl)-	5	After	DNR	O	C	--
1725	Isopropyl p-chlorocarbanilate	5	After	DNR	AL	C	--
1898	4,4'-Isopropylidenebis(2-phenylphenol)	5	After	DNR	AL	C	DAaxx; DAbx
1906	Isopropyl-o-methoxycarbanilate	5	After	DNR	AL	C	--
1098+ 1711	2-Methoxyethyl carbanilate plus Glyoxal	5	Before	DR	AL	C	--
1656	alpha-(4-(alpha-Methylbenzyl) cyclohexyloxymethyl benzyl alcohol	5	After	DNR	AL	C*	--
2224	2-Naphthol,1,6-dibromo-	5	After	DNR	AL	C**	DAxx
2009	1,4-Naphthoquinone, 2-methoxy-	Sat. sol.	After	DNR	AL	C	DAaxx; DAbx
2146	Phenol,2-bromo-4-phenyl-	5	After	DNR	AL	C**	DAax; NDAb
2112	Phenol, 4-tert-butyl-2-phenyl-	5	After	DNR	AL	C	DAax; NDAb
1750	Phenoxathiin, 10-oxide	Sat. sol.	After	DNR	O	C	DAxx
1955	4-Phenylpyrocatechol	5	After	DNR	AL	C**	DAxx
1523	Polybor	10	After	DNR	W	C	NDA
1963	2-Propanol, 1-amino-	5	After	DNR	WD	C	NDA
2166	Propyl phosphite, di-	5	After	DNR	AL	C	NDA
1754	Pyrocatechol, 4-phenyl-	5	After	DNR	O	C**	DAxx

Accession number	Chemical	Percent - Maximum concentration	Ethylene applied to naturally infected fruit	How treated after dip or fumigation	Solvent or diluent	RESULTS	
						Natural infections	Penicillium inoculations (no ethylene)
2008	p-Quinone,2,5-bis (1,1,3,3-tetramethylbutyl)-	Sat. sol.	After	DNR	AL	C	NDA
13 + 1616	Sodium-o-phenyl phenate plus hexamethylenetetramine	2 + 1	Before	DNR	W	C	DAxx'
1734	2-Stilbazole	5	After	DNR	AL	C	--
2185	p-Toluenesulfonanilide, N-allyl-	5	After	DNR	O	C	DAaxx; DAbx
1863	m-Toluidine,4-ethyl-sulfonyl-,a,a,a,-trifluoro- (Echt Gold orange, GR Base)	5	After	DNR	AL	C	--
1686	2,4-x-Trichloro-6-phenylphenol	5	After	DNR	AL	C	--
1842	Urea-boric acid, reaction product sample 102	5	After	DNR	W	C	--
2191	Zinc beta-benzoylacrylate	5	After	DNR	O	C	DAaxx; DAbx
2174	Acetanilide, p-formyl-, thiosemicarbazone	5	After	DNR	O	D	NDA
2145	Acetic acid, cyano-, methyl ester	5	After	DNR	AL	D*	NDA
2039	Acetic acid, (2,4-dichlorophenoxy)-nickel (II) salt	5	After	DNR	ALD	D*	DAaxx; NDAb
1901	Acetic acid, isopropenyl ester	5	After	DNR	AL	D	--
1864	Acetoacetanilide,p-chloro-	5	After	DNR	AL	D	--
2034	Acetophenone, a-chloro-2,4,6-trimethyl	5	After	DNR	AL	D	DAax; NDAb
2076	Acetophenone,2,5-dihydroxy-	5	After	DNR	ALD	D	NDA
1966	Acetophenone, m-hydroxy-	5	After	DNR	WD	D	NDA
1987	Acetophenone, p-(2,2,2-trichloro-1-hydroxyethyl-amino)-	5	After	DNR	AL	D	DAaxx; DAbx
2114	Acrylic acid, trichloro-, sodium salt	5	After	DNR	W	D	NDA
2026	Alkyl phenoxy polyoxyethelene ethanol (Antarate Av-441)	1000 ppm	After	DNR	W	D	NDA
1876	3-(1-Aminoethylidene)-6-methyl-1, 2-pyran-2, 4 (3)-dione	5	After	DNR	ALD	D	--
1737	Ammino oxalate, copper (II) di-	Sat. sol.	After	DNR	AL	D	--
1741	Ammino phthalate, copper (II) di-	5	After	DNR	WD	D	--
1989	Ammino succinate, copper (II) di-	5	After	DNR	WD	D	NDA
2082	Ammonium benzenesulfonate, alkyl-trimethyl- (alkyl = apprx. $C_{18}H_{37}$)	5	After	DNR	W	D*	NDA
2081	Ammonium p-chlorobenzensulfonate, alkyl-trimethyl- (alkyl = apprx. $C_{12}H_{25}$)	5	After	DNR	W	D**	NDA
2083	Ammonium p-chlorobenzenesulfonate, alkyl-trimethyl- (alkyl = apprx. $C_{18}H_{37}$)	5	After	DNR	W	D*	NDA

Accession number	Chemical	Percent - Maximum concentration	Ethylene applied to naturally infected fruit	How treated after dip or fumigation	Solvent or diluent	RESULTS	
						Natural infections	Penicillium inoculations (no ethylene)
2084	Ammonium *p*-fluorobenzenesulfonate, alkyl-trimethyl- (alkyl = appx. $C_{18}H_{37}$)	5	After	DNR	W	D**	NDA
2085	Ammonium m-nitrobenzenesulfonate, alkyltrimethyl- (alkyl = appx. $C_{18}H_{37}$)	5	After	DNR	W	D**	NDA
1965	Ammonium sulfamate	5	After	DNR	W	D	NDA
1858	2-Anthranilide, 3-hydroxy-(Naphtol AS-GR)	5	After	DNR	ALD	D	--
1716	Antipyrine, 4,4'-(*p*-di-methylamino-benzylidene) di-, dihydrochloride	5	Before	DNR	W	D	--
1832	Antistine hydrochloride	5	After	DNR	AL	D**	NDA
2181	Benzaldehyde, azine	5	After	DNR	ALD	D	DAaxx, DAbx
2173	Benzaldehyde, *p*-hydroxy-, thiosemicarbazone	5	After	DNR	O	D	NDA
1801	Benzamide	5	After	DNR	AL	D	--
1762	Benzene, (1,2-dibromoethyl)-	5	After	DNR	O	D	DAaxx; NDAb
2006	Benzene, *p*-bis (allyloxy)-	5	After	DNR	AL	D	NDA
2073	Benzenephosphonic acid, dioctyl ester	5	After	DNR	AL	D	NDA
1820	Benzhydrol, 4,4'-bis(dimethylamino)-	5	After	DNR	AL	D	--
2078	Benzhydrol, 4,4'-dichloro-a-methyl	5	After	DNR	AL	D	NDA
1719	Benzidine, N,N,N',N'-tetraethyl-	5	After	DNR	DV	D	--
2040	Benzoic acid, 2,4-dichloro-, nickel (II) salt	5	After	DNR	ALD	D	DAax, NDAb
2205	*trans*-beta-Benzoilacrylic acid	5	After	DNR	WD	D	NDA
1766	Benzophenone, 4-chloro-	5	After	DNR	O	D	--
2111	Benzophenone, 4,4'-dihydroxy-	5	After	DNR	WD	D	NDA
2189	2-Benzothiazolol	5	After	DNR	AL	D	DAxx
2212	2-Benzothiazolol	5	After	DNR	WD	D	NDA
2211	2-Benzothiazolyl dicyclohexylammonium sulfide	5	After	DNR	WD	D	NDA
2217	2-Benzothiazolyl thiolbenzoate	5	After	DNR	WD	D	NDA
1904	2-Benzoxazolethiol	5	After	DNR	AL	D	DAxx
1857	2,4-Benzoxylide, 5'-amino (Fast Red RBE Base)	5	After	DNR	ALD	D	--
2201	beta-Benzoyl-alpha(beta)-chloroacrylic acid	5	After	DNR	O	D**	DAaxx; DAbx
2222	beta-Benzoyl-alpha(beta)-chloroacrylic acid	5	After	DNR	WD	D*	NDA
2071	[Bicyclohexyl]-1,1'-diol	5	After	DNR	AL	D	DAax; NDAb
2113	*p,p'*-Biphenol, 2,2'-dipropyl-	5	After	DNR	WD	D	NDA

Accession number	Chemical	Percent - Maximum concentration	Ethylene applied to naturally infected fruit	How treated after dip or fumigation	Solvent or diluent	RESULTS	
						Natural infections	Penicillium inoculations (no ethylene)
1688	1-(2-Biphenylyloxy)-2-(2-chloroethoxy) ethane	5	After	DNR	AL	D	--
2208	1,3-Bis(hydroxymethyl)-2-thiourea dimethyldithiocarbamate	5	After	DNR	WD	D	NDA
2101	1,3-Bis(hydroxymethyl) urea dibutyldithiocarbamate	5	After	DNR	ALD	D	NDA
1768	Bis(3,5,6-trichloro-2-hydroxyphenyl) methane and potassium vegetable oil soaps	2	Before	DR	W	D	--
1724	Boron fluoride-urea reaction product (heated)	5	After	DNR	W	D	--
1723	Boron fluoride-urea reaction product (not heated)	5	After	DNR	AL	D**	--
1871	m-Bromoacetophenone	5	After	DNR	AL	D	--
1932	m-Bromoaniline	5	After	DNR	AL	D**	DA$_{xx}$
1780	Bromobenzene	25 cc	After	F	--	D	--
1773	m-Bromobenzoic acid	5	After	DNR	AL	D	--
1772	o-Bromobenzoic acid	5	After	DNR	AL	D	--
1774	p-Bromobenzoic acid	5	After	DNR	AL	D	--
1781	Bromoform	25 cc	After	F	--	D*	--
1927	1-Bromo-2-nitrobenzene	5	After	DNR	AL	D	DA$_{x}$
1771	o-Bromophenol	5	After	DNR	AL	D**	--
1779	p-Bromophenol	5	After	DNR	AL	D**	--
1877	m-Bromopropiophenone	5	After	DNR	AL	D	--
1783	o-Bromopyridine	5	After	DNR	AL	D*	--
1784	o-Bromotoluene	25 cc	After	F	--	D	--
2059	Butane, 1-bromo-	5	After	DNR	O	D	NDA
1975	2-Butanone,3,3'-ethylenedinitrilodi-, dioxime	5	After	DNR	DV	D	NDA
1726	t-Butyl carbanilate	Sat. Sol.	After	DNR	O	D	--
2168	Butyl chlorophosphate $[(HO)_2P(:O)Cl]$, di	5	After	DNR	AL	D**	NDA
1884	2-sec-Butylcyclohexanol	5	After	DNR	AL	D	NDA
1873	x-tert-Butylguaiacol	5	After	DNR	AL	D**	--
2163	Butyl phosphite, tri-	5	After	DNR	AL	D	NDA
2096	Camphor U.S.P.	5	After	DNR	AL	D	NDA
2096 +1616	Camphor U.S.P. plus Hexamethylenetetramine Technical (Granular)	5 + 2½	After	DNR	AL	D	NDA
2028	d-Camphor,3-amino-, monosulfate	5	After	DNR	W	D	NDA
1787	n-Caprylic acid	5	After	DNR	AL	D**	--
2054	Carbanilic acid,o-chloro-, isopropyl ester	5	After	DNR	AL	D	NDA

Accession number	Chemical	Percent - Maximum concentration	Ethylene applied to naturally infected fruit	How treated after dip or fumigation	Solvent or diluent	RESULTS	
						Natural infections	Penicillium inoculations (no ethylene)
2051	Carbanilic acid, 2,5-dichloro-, isopropyl ester	5	After	DNR	AL	D	NDA
1946	Carbon tetrabromide	5	After	DNR	AL	D*	DAaxx; NDAb
2000	Chaulmoogric acid, ethyl ester	5	After	DNR	AL	D	NDA
1827	Chlorinated biphenyl, 21% chlorine	25cc	After	F	--	D	--
1917	4-Chloro-2-(alpha-ar-ar-trimethylbenzyl) phenol	5	After	DNR	AL	D*	--
1653	o-Chloroacetophenone	5	After	DNR	AL	D**	--
1807	Chlorobenzene	25cc	After	F	--	D*	--
2043	p-Chlorobenzenethiol	5	After	DNR	O	D	DAax; NDAb
1776	m-Chlorobenzoic acid	5	After	DNR	AL	D**	--
1775	o-Chlorobenzoic acid	5	After	DNR	AL	D*	--
1777	p-Chlorobenzoic acid	Sat. sol.	After	DNR	AL	D*	--
2203	p-Chlorobenzoic acid	5	After	DNR	WD	D	NDA
1897	2-Chloro-6-cyclohexylphenol	5	After	DNR	AL	D**	DAxx
2210	5-Chloro-2-mercaptobenzothiazole	5	After	DNR	WD	D	NDA
1937	6-Chloro-2-mercapto-benzothiazole	Sat. sol.	After	DNR	AL	D	DAax; NDAb
1936	5-Chloro-2-methylbenzofuran	5	After	DNR	AL	D	DAax; NDAb
1939	p-Chlorophenyl acetate	5	After	DNR	AL	D**	DAxx
2196	N-(o-Chlorophenyl)maleimide	5	After	DNR	AL	D**	DAxx'
2198	N-(p-Chlorophenyl)maleimide	5	After	DNR	AL	D*	DAxx
1850	1-(p-Chlorophenyl)-1-(2-pyridyl)-3-N,N-dimethylpropylamine maleate	5	After	DNR	W	D**	NDA
2144	Cinchoninic acid, 2-hydroxy-	5	After	DNR	ALD	D	NDA
1880	Cinnamyl methyl ether	5	After	DNR	AL	D	--
2192	Copper beta-benzoylacrylate	5	After	DNR	DV	D	DAaxx; DAbx
2215	Copper beta-benzoylacrylate	5	After	DNR	WD	D	NDA
1730	a-Conidendrin, diacetate*	Sat. sol.	After	DNR	O	D	--
1739	beta-Conidendrin, diacetate*	5	After	DNR	AL	D	--
1764	a-Conidendrol, dihydrate*	5	After	DNR	AL	D	--
2216	Copper anthranilate	5	After	DNR	WD	D	NDA
1974	o-Cresol, a-phenylimino-	5	After	DNR	AL	D*	DAaxx; NDAb
2142	p-Cresol,2,6-dibromo-	5	After	DNR	AL	D**	DAaxx; DAbx
2014	Crotonanilide, N-sec-butyl-p-(sec-butylamino)-	5	After	DNR	AL	D	DAaxx; NDAb
2007	m-Crotonotoluidide,N-ethyl-	5	After	DNR	AL	D**	NDA
1960	Cyanamide, diallyl-	5	After	DNR	ALD	D	NDA
1984	Cyanuric chloride	5	After	DNR	WD	D	NDA
1761	2,5-Cyclohexadien-1-one,hexachloro-	Sat. sol.	After	DNR	AL	D**	NDA
2002	Cyclohexanol,1-ethylnyl-	5	After	DNR	AL	D	NDA
1752	Cyclohexanol,cis (and trans)-2-isopropyl-	5	After	DNR	O	D*	DAaxx; DAbx
1745	Cyclohexanepropionic acid	5	After	DNR	O	D**	--

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1924	beta-Cyclohexylaminopropionitrile	5	After	DNR	AL	D	NDA
2187	Cyclohexylammonium 2-benzothiazolyl sulfide	5	After	DNR	WD	D	NDA
1923	N-cyclohexyl-1,3-propanediamine	5	After	DNR	AL	D**	DAxx
1860	Cyclopropane,1,2-di-benzoyl-3-phenyl-	5	After	DNR	DV	D	--
1834	Decyl-2-(N'-p-methoxybenzyl-N'-pyrimidylamino) ethyldimethyl ammonium bromide	5	After	DNR	AL	D**	DAx
1837	Decyl (-2-(N'-p-methoxybenzyl-N'-pyrimidylamino ethyldimethyl ammonium iodide	5	After	DNR	AL	D	DAxx'
1662	1,6-Dibromohexane	5	After	DNR	AL	D*	--
1947	2,3-Dibromo-1-propanol	5	After	DNR	AL	D*	DAaxx; NDAb
1718	Dibutylamine, complex with ½ f.wt. fluosilicic acid	5	Before	DNR	W	D*	--
1679	x-Di-sec-butylphenol	5	After	DNR	AL	D**	--
2050	Dichloramine-B	5	After	DNR	AL	D	NDA
1956	2,3-Dichloroacetophenone	5	After	DNR	AL	D**	DAx
1891	2,4-Dichloroanisole	5	After	DNR	AL	D	DAaxx; NDAb
2204	2,5-Dichloro-3,6-dihydroxyquinone	5	After	DNR	WD	D	NDA
2161	3,4-Dichloro diphenyl sulfone	5	After	DNR	DV	D	NDA
1865	3,4-Dichloro-5-methoxy-2(5H)-Furanone	5	After	DNR	AL	D**	DAxx'
2188	Dicyclohexylammonium 2-benzothiazolyl sulfide	5	After	DNR	ALD	D	DAaxx; DAbx
1926	beta-Diethylaminopropionitrile	5	After	DNR	AL	D	DAx
2115	Diethyl ethylenebis (thionocarbamate)	5	After	DNR	AL	D	NDA
1869	Dihydroxybenzophenone mixture	5	After	DNR	AL	D	--
1789	4,4'-Dihydroxydiphenyl	5	After	DNR	AL	D	--
1728	Dihydroxy hexachloro diphenyl methane soap flakes containing 2% G-11	0.5	Before	DR	W	D	--
1922	Dimethylaminoacetaldehyde diethylacetal	5	After	DNR	AL	D	DAaxx; DAbx
1920	2,6-Dimethyl-1,4-pyrone	5	After	DNR	AL	D	DAaxx; NDAb
1790	2,2'-Diphenic acid	5	After	DNR	AL	D	--
2207	1,3-Diphenylguanidine pentachlorophenate	5	After	DNR	WD	D	NDA
1928	Disodium propylenebis dithiocarbamate (stabilized 20% sol.)	5	After	DNR	AL	D*	NDA
2209	2,2'-Dithiobisbenzothiazole (Thiofide)	5	After	DNR	WD	D	NDA
1835	Dodecyl-2-(N'-p-methoxybenzyl-N'-pyrimidylamino) ethyldimethyl ammonium bromide	5	After	DNR	AL	D	DAaxx; DAbx

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1839	Dodecyl-2(N'-p-methoxybenzyl-N'-pyrimidylamino) ethyldimethyl ammonium iodide	5	After	DNR	AL	D	DAaxx; DAbx
2060	Ethane, 1,2-dibromo-1,1-dichloro-	5	After	DNR	AL	D*	NDA
2061	Ethane,1,1-dichloro-	5	After	DNR	O	D	NDA
2147	Ethane,1,1,1-trichloro-	5	After	DNR	O	D	NDA
2109	Ethane,1,1,2-trichloro-	5	After	DNR	AL	D	NDA
2108	Ethane,1,1,2,2-tetrachloro-	5	After	DNR	O	D	NDA
1767	1,2-Ethanediol, phenyl-	5	After	DNR	W	D	--
1822	1,2-Ethanediphosphonic acid, tetraethyl ester	5	After	DNR	AL	D	--
2165	Ethanephosphonic acid, diethyl ester	5	After	DNR	AL	D	NDA
1959	Ethanephosphonic acid,2,2,2-trichloro-1-hydroxy-, diethyl ester	5	After	DNR	AL	D**	NDA
2011	Ethanol,2-(p-methoxy-phenoxy)-	5	After	DNR	AL	D	DAaxx; NDAb
1749	Ethanol,2-methylmercapto-	5	After	DNR	W	D	--
1715	Ethanol,2,2'-iminodi-, complex with ½ f.wt. fluosilicic acid	5	Before	DNR	W	D	--
1713	Ethanol,2,2',2"-nitrilotri-, complex with ½ f.wt. fluosilicic acid	5	Before	DNR	W	D	--
2077	Ethanol,2,2'-sulfinyldi-	5	After	DNR	W	D	NDA
2143	Ethanol,2,2,2-trichloro-	5	After	DNR	AL	D*	NDA
1802	Ethyl bromide	25cc	After	F	--	D	--
2164	Ethyl chlorophosphate ($[(HO)_2P(:O)Cl]$), di-	5	After	DNR	AL	D	NDA
2140	Ethyl p-ethoxythionocarbanilate	5	After	DNR	O	D	NDA
2027	Ethyl hexanol	5	After	DNR	AL	D	NDA
1792	Ethyl iodide	5	After	DNR	AL	D	--
2121	Ethyl isopropylthionocarbamate	5	After	DNR	AL	D*	DAaxx; DAbx
2167	Ethyl thiophosphate ($[(HO)_3P(:S)]$), tri-	5	After	DNR	AL	D	NDA
1804	Ethylene bromide	25cc	After	F	--	D	--
1805	Ethylene chlorobromide	25cc	After	F	--	D*	--
1830	Ethylenediamine tetraacetic acid, disodium salt	5	After	DNR	W	D	NDA
1875	Ethylene glycol trithiocarbonate	5	After	DNR	AL	D*	--
2057	Ethylene, tetrachloro-	5	After	DNR	AL	D	NDA
2003	Fenchone	5	After	DNR	ALD	D	NDA
1758	Furan,2-(chloromethyl) tetrahydro-	5	After	DNR	AL	D	NDA
2001	Geraniol	5	After	DNR	AL	D*	NDA
2045	Guaniacol,4-propyl-	5	After	DNR	AL	D*	DAaxx; DAbx
1717	Guanidine, complex with ½ f.wt. fluosilicic acid	Sat. sol.	Before	DNR	W	D	--
1978	Guanidine,1,3-dicyano-, monopotassium salt	5	After	DNR	W	D	NDA

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2090	Hexachlorocyclopentadiene	1000 ppm	After	DNR	WE	D	NDA
2090	Hexachlorocyclopentadiene	50ppm	After	DNR	W	D	NDA
1838	Hexadecyl-2-(N'-p-methoxybenzyl-N'-pyrimidylamino) ethyldimethyl ammonium iodide	5	After	DNR	AL	D	DAaxx; DAbx
2012	Hydroquinone, cyclohexyl-	5	After	DNR	AL	D**	DAxx'
2013	Hydroquinone,(1,1,3,3-tetramethylbutyl)-	5	After	DNR	AL	D	DAaxx; DAbx
1854	Hydrouracil,6-imino-5-isonitroso-nitrosocorper	Sat. sol.	After	DNR	AL	D	--
1673	2-Hydroxy 5 chloro butyrophenone	5	After	DNR	AL	D	--
1943	N-Hydroxymethylformamide	5	After	DNR	AL	D	NDA
1765	3-Indolepropionic acid	5	After	DNR	O	D	--
1794	Iodobenzene	5	After	DNR	AL	D	--
1796	m-Iodobenzoic acid	5	After	DNR	AL	D	--
1795	o-Iodobenzoic acid	5	After	DNR	AL	D	--
1797	p-Iodobenzoic acid	Sat. sol.	After	DNR	AL	D	--
1799	p-Iododiphenyl	Sat. sol.	After	DNR	AL	D	--
1812	Iodonium chloride,bis(2-bromo-4-chlorophenyl)-	5	After	DNR	O	D	--
1816	Iodonium chloride,bis(p-bromophenyl)-	5	After	DNR	O	D	--
1810	Iodonium chloride,bis(2,4-dichlorophenyl)-	5	After	DNR	O	D	--
1811	Iodonium chloride,bis(3,4-dichlorophenyl)-	5	After	DNR	O	D	--
1817	Iodonium iodide,bis(p-bromophenyl)-	5	After	DNR	O	D	--
1815	Iodonium iodide,bis(2,4-dichlorophenyl)-	5	After	DNR	O	D	--
1818	Iodonium iodide,bis(3,4-dichlorophenyl)-	5	After	DNR	O	D	--
1813	Iodonium iodide,bis(p-fluorophenyl)-	5	After	DNR	O	D	--
1800	o-Iodophenol	5	After	DNR	AL	D**	--
1940	Isobutyl-beta-benzoylacrylate	5	After	DNR	AL	D*	DAxx'
1720	Isopropylamine, complex with $\frac{1}{2}$ f.wt. fluosilicic acid	5	Before	DNR	W	D**	--
1909	Isopropyl-p-bromocarbanilate	5	After	DNR	AL	D	DAaxx; NDAb
1907	Isopropyl-o-chlorocarbanilate	5	After	DNR	AL	D	DAaxx; NDAb
2120	Isopropyl isopropylthionocarbamate	5	After	DNR	AL	D**	NDA
1682	p-Isopropylphenol	5	After	DNR	AL	D**	--
1823	Lauranilide	5	After	DNR	O	D	--
1824	Linoleanilide, dimer	5	After	DNR	O	D	NDA
2041	Maleic hydrazide, diethanolamine salt	1000 ppm	After	DNR	W	D	NDA
2063	Methane, bromodichloro-	5	After	DNR	AL	D	NDA

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1893	2-Methylbenzofuran	5	After	DNR	AL	D	DAax; NDAb
1953	alpha-(4-(alpha-Methylbenzyl) cyclohexyloxymethyl)benzyl alcohol	5	After	DNR	AL	D*	DAx
1681	2,2'-Methylenebis (4-chloro-6-isopropylphenol)	5	After	DNR	AL	D	--
1889	Methyl 3-phenylpropyl ether	5	After	DNR	AL	D	DAaxx; NDAb
1714	Morpholine, complex with $\frac{1}{2}$ f.wt. fluosilicic acid	5	Before	DNR	W	D**	--
2183	1-Napthalenesulfonic acid, 4-cyano-, sodium salt	5	After	DNR	W	D	NDA
1736	2-Naphthamide, 1,2,3,4-tetrahydro-6-hydroxy-4-(4-hydroxy-3-methoxyphenyl)-3-hydroxy-methyl-7-methoxy-	5	After	DNR	AL	D	--
1967	2-Naphthoic acid, 3-hydroxy-7-sulfo-	5	After	DNR	WD	D	NDA
2206	1-Nitroso-2-naphthol	5	After	DNR	WD	D	NDA
1912	2-Nitro-3,4,5-Trichlorophenol	5	After	DNR	AL	D**	--
2193	Octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene-1,8-dione	5	After	DNR	O	D*	DAaxx; NDAb
2218	Octachloro-3a,4,7,7a,tetrahydro-4,7-methanoindene-1,8-dione	5	After	DNR	WD	D	NDA
2104	Octadecylurea	5	After	DNR	ALD	D	NDA
1732	Oxalic acid, hemicopper (II) salt, salt with 1 f.wt. disodium oxalate, dihydrate	5	After	DNR	WD	D	--
2100	Paraformaldehyde-camphor	5	After	DNR	ALD	D*	NDA
1803	Paraldehyde	5	After	DNR	AL	D	--
1921	Pentabromo ethane	5	After	DNR	AL	D	DAxx'
1576	Pentachloroethane	50cc	--	F	--	--	NDA
1576	Pentachloroethane	5	After	DNR	AL	D	--
2035	3-Pentenoic acid, 2-cyano-3-ethyl-2-methyl-, ethyl ester	5	After	DNR	AL	D	NDA
2134	Perchloroethylene	50cc	--	F	--	--	NDA
1751	Phenetole, beta-chloro-o-phenyl-	5	After	DNR	O	D	DAaxx; DAbx
1722	Phenetole, beta, p-dibromo-	5	After	DNR	AL	D	--
2004	Phenetole, 4-tert-butyl-B,2-dichloro-	5	After	DNR	AL	D	NDA
1973	Phenol, p-benzylideneamino-	5	After	DNR	O	D**	NDA
2182	Phenol, 3-chloro-4-nitro-	5	After	DNR	AL	D**	DAxx
2005	Phenol, 2,6-diallyl-4-methoxy-	5	After	DNR	AL	D**	NDA
1759	Phenol, p-(a,a-dimethylbenzyl)-	5	After	DNR	O	D**	DAaxx; DAbx
2162	Phenol, o-isopropyl-	5	After	DNR	AL	D**	NDA
1746	Phenol, p-p'-(1-methyl-propylidene) di-	5	After	DNR	AL	D**	--
1861	Phenol, 2,2'-thio-bis [4-tert-butyl- (stabilizer BS)	5	After	DNR	O	D	--
2036	Phenol, 2,4,6-triamino-, trihydrochloride	5	After	DNR	W	D**	NDA

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1721	Phenothiazine, 10-benzoyl-3,7-bis (dimethylamino)-	5	After	DNR	DV	D*	--
1950	2-Phenylcyclohexanol	5	After	DNR	AL	D**	NDA
2190	6-Phenyl-2-mercaptobenzothiazole	5	After	DNR	DV	D	NDA
2068	Phosphoric acid, 2-biphenylyl diphenyl ester	5	After	DNR	AL	D	NDA
2069	Phosphoric acid, bis(p-tert-butylphenyl) phenyl ester	5	After	DNR	AL	D	DAax; NDAb
2067	Phosphoric acid, p-tert-butylphenyl diphenyl ester	5	After	DNR	AL	D	NDA
1819	Phosphoric acid, 2-(2,4-dichlorophenoxy) ethyl diethyl ester	5	After	DNR	AL	D	--
1991	Phosphoric acid, diethyl, 2-(1-naphthyl) ethyl ester	5	After	DNR	AL	D**	NDA
2172	Phosphoric acid, trioctyl ester (mixture of isomers)	5	After	DNR	AL	D	NDA
2170	Phosphorous acid, bis(3,5,5-trimethylhexyl) ester	5	After	DNR	AL	D*	NDA
2171	Phosphorous acid, tris(2-ethylhexyl) ester	5	After	DNR	AL	D	NDA
2184	Phthalimide, N-(3-bromopropyl)-	5	After	DNR	O	D	DAaxx; DAbx
2032	Phthalimide, N-2-hydroxyethyl)-	5	After	DNR	AL	D	NDA
2062	Propane, 1,2-dibromo-	5	After	DNR	AL	D	NDA
2148	Propane,1,2-dibromo-3-chloro-	5	After	DNR	AL	D	NDA
2169	1,3-Propanediphosphonic acid, tetraethyl ester	5	After	DNR	AL	D	NDA
2064	Propane,1,2,3-tribromo-	5	After	DNR	AL	D	NDA
1756	1-Propanol, 3-phenoxy-	5	After	DNR	AL	D	--
2070	2-Propanol,1-dimethyl-amino	5	After	DNR	WD	D	NDA
2030	2-Propanol,1,3-bis (2-hydroxyethylmercapto)-	5	After	DNR	AL	D	NDA
2066	Propionic acid, a-chloro-	5	After	DNR	W	D**	NDA
1748	Propionic acid, a-phenoxy-	5	After	DNR	O	D**	--
2031	Propionic acid, beta, beta'-(ethylimino) di-, diethyl ester	5	After	DNR	AL	D	NDA
2180	Propionitrile, beta-benzoyl-2-phenyl-	5	After	DNR	DV	D	DAaxx; DAbx
1961	Propionitrile, beta-isopropoxy-	5	After	DNR	AL	D	NDA
1831	Pyribenzamine hydrochloride	5	After	DNR	AL	D*	NDA
1731	Pyridine, 2,6-distyryl-	Sat. sol.	After	DNR	AL	D	--
2075	Pyridine,3-(2-pyrollin-2-yl)-	5	After	DNR	W	D	NDA
2079	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-,diethyl ester	5	After	DNR	ALD	D	NDA
1964	Quilon*	5	After	DNR	W	D	NDA
1859	Quinizarin	5	After	DNR	AD	D**	--
2018	Salicylaldehyde oxime	4	After	DNR	W	D	DAax; NDAb
1663	Sodium bromoacetate	5	After	DNR	WD	D	--
1894	Sodium isethionate	5	After	DNR	W	D	NDA

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2074	beta-Styrenephosphonic acid, dioctyl ester	5	After	DNR	AL	D	NDA
2010	Terephthalic acid, 2,5-dihydroxy-	Sat. sol.	After	DNR	AL	D	NDA
2103	Tetrabutylurea	5	After	DNR	AL	D	NDA
2132	Tetrachloroethane	68cc	--	F	--	--	NDA*
2150	s-Tetrachloroethane	68cc	--	F	--	--	NDA*
2194	Thianaphthene 1,1-dioxide	Sat. sol.	After	DNR	O	D**	DAxx'
2097	2,2'-Thiobis(4,6-dichlorophenol)	5	After	DNR	O	D	NDA
1971	alpha-Toluenephosphonic acid, p-chloro-a-hydroxy-, diethyl ester	5	After	DNR	AL	D**	NDA
1821	alpha-Toluenephosphonic acid,3,4-dichloro, diethyl ester	5	After	DNR	AL	D**	--
1970	alpha-Toluenephosphonic acid, 2,4-dichloro-a-hydroxy-, diethyl ester	5	After	DNR	AL	D	NDA
1969	alpha-Toluenephosphonic acid, *p*, a-dihydroxy-	5	After	DNR	W	D	NDA
2186	*p*-Toluenesulfonamide,N,N'-*p*-phenylenebis-	5	After	DNR	DV	D	DAaxx; DAbx
1742	*p*-Toluenesulfonic acid, diester with a-conidendrin*	Sat. sol.	After	DNR	AL	D	--
1740	*p*-Toluenesulfonic acid, diester with beta-conidendrin*	5	After	DNR	WD	D	--
2199	N-o-Tolylmaleimide	5	After	DNR	AL	D**	DAxx'
2221	N-o-Tolylmaleimide	5	After	DNR	WD	D*	NDA
2200	N-p-Tolylmaleimide	5	After	DNR	DV	D**	DAxx'
2160	2,4,5-Trichloro diphenyl sulfone	5	After	DNR	DV	D	NDA
2152	Trichloroethylene	25cc	--	F	--	--	NDA
2135	Trimethyl cyclohexanol (low-melting)	5	After	DNR	AL	D*	NDA
2136	Trimethyl cyclohexanol (high-melting)	5	After	DNR	AL	D*	NDA
1849	Trimeton maleate	5	After	DNR	W	D**	NDA
1902	Trioxane	5	After	DNR	W	D**	NDA
1949	Tripropylene glycol n-butyl ether	5	After	DNR	AL	D*	NDA
1866	N^2,N^4,N^6,Tris(2-benzothiazolyl-mercaptomethyl) melamine	5	After	DNR	ALD	D	DAaxx; NDAb
1806	Undecylenic acid	5	After	DNR	AL	D**	--
1855	Uracil,6-amino-(dihydroxyprimidin)	Sat. sol.	After	DNR	AL	D	--
1856	Uracil,5,6-diamino-,mono-sulfate (diaminsulfate)	5	After	DNR	DV	D	--
1985	Urea,1-(2,2,2-trichloro-1-hydroxyethyl)-	5	After	DNR	AL	D	DAax; NDAb
2102	Urea-formaldehyde condensation product (1.45:1 mole ratio)	5	After	DNR	WD	D	NDA

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1972	Urea, guanyl-, sulfate	5	After	DNR	W	D	NDA
2048	Urea, 1,3-di-1-naphthyl-2-thio-	5	After	DNR	WD	D	NDA
2105	Urea nitrate	5	After	DNR	W	D	NDA
1986	Urea,1,3-bis(2,2,2-trichloro-1-hydroxyethyl)-	5	After	DNR	AL	D	NDA
1733	o-Veratramide, N,N-diethyl-	5	After	DNR	AL	D	--
1962	Volan*	5	After	DNR	W	D	NDA
1862	3,5-Xylidine,A^3,A^3,A^3,A^5,A^5,A^5, hexafluoro- (Echt Orange G.G.D. Base 2)	5	After	DNR	AL	D	--
2214	Zinc beta-benzoylacrylate	5	After	DNR	WD	D	NDA